

REMARKS

Claims 1-20 are pending in this application. As to the amendment to claim 1, lines 7-8, see, e.g., the preamble to claim 1. As to the amendment to claim 1, lines 11-12, and the amendment to claim 7, see, e.g., Applicant's specification at page 2, lines 17-19. The amendment to claim 11 is only grammatical, without change in meaning. As to the amendment of "computer" to "processing unit" in claims 1, 5, 6 and 7, see the use of "processor" and "processing device" in the embodiments described at pages 4-6.

At page 2, paragraph 2 of the Office Action, Claims 1-7 and 9-10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Oh et al. (US Patent No. 6,185,537) in view of Fukuda (US Patent No. 6,456,721). The Examiner admits that Oh et al. fail to disclose that the microphone is a bone conduction microphone. The Examiner asserts that Oh et al. and Fukuda are analogous art, and cites Fukuda as teaching a bone conduction microphone.

Applicant respectfully traverses this obviousness rejection.

The invention recited in Applicant's claim is a "method for inputting an instruction to operate a processing unit, using a bone conduction microphone for picking up a sound produced in an oral cavity of a user." (Applicant's claim 1.) The inventive method comprises steps of: "a) retrievably storing a plurality of registered sounds in a memory, each of the registered sounds corresponding to a different instruction;" "b) inputting an input sound through the bone conduction microphone, wherein the bone conduction microphone has picked up a sound produced in an oral cavity of a user;" "c) searching the memory for an instruction using the input sound as a key;" and "d) determining the instruction to operate the processing unit, wherein the user may operate the processing unit without using voices." (Id.)

As the Examiner admits, the Oh et al. patent fails to teach or disclose using a bone conduction microphone. Oh et al. rely on voice input. Oh et al. do not disclose a user operating a processing unit or a computer without using voices. The Oh patent has as its main objective a hands-free audio memo system, with the emphasis being on a hands-free feature, such as for use while driving an

automobile. Oh et al. fail to teach operating a processing device or computer using sounds that are not voices. The Oh reference is quite removed from Applicant's presently claimed invention.

With regard to Fukuda, which the Examiner cites as a secondary reference, Fukuda recognizes that there have been previous systems, for two-way speech, using a bone conduction speaker, microphone and a headset. (Fukuda, col. 1, lines 13+.) Fukuda identifies problems with comfort and with howling problems that arise from the microphone picking up vibrations of the bone conduction speaker. (Id., lines 30+.) Fukuda seeks to address these problems in a two-way speech system. Fukuda fails to teach or disclose operating a processing device or computer. Nor does Fukuda teach reliance on only non-voice sounds. With reference to the figures (such as Figure 3), Fukuda is directed to a conspicuous-looking microphone system, for regular use. A reader easily imagines Fukuda's two-way speech system being used in broadcasting, by a tech crew, by coaching staff at a game, or the like.

A person of ordinary skill in the art would not combine Oh and Fukuda in the artificial manner that the Examiner has proposed. As Fukuda's background section indicates, there is a technology of bone conduction speakers being used in a two-way speech system, that technology being sufficiently important for Fukuda to want to improve its comfort to the user and reduce howling noises. A person of ordinary skill in the art would be reading Fukuda in the context of two-way speech systems. It is imputing too much beyond such a person's skill and ability for the Examiner to suggest that he would go looking for different technologies in which to use a bone conduction speaker.

Even with Oh and Fukuda, the person of ordinary skill in the art still would not arrive at the presently claimed invention. Neither reference teaches operating a processing device or computer using sounds but without using voices. Therefore, any combination of the two references would not produce or make obvious the invention as presently claimed.

For all the above reasons, Applicant's claim 1 is not obvious over Oh et al., and Fukuda.

For simplicity, Applicant does not separately comment on each claim at

this time. Selected remarks are as follows.

Applicant's dependent claim 4 recites that "each of the registered sounds is produced by one of teeth-clicking and tongue-moving." Neither Oh et al. nor Fukuda disclose operating a processing device or computer, without needing voices, by relying on teeth-clicking or tongue-moving sounds.

Applicant's claim 5 recites steps of "d.1) checking for the instruction through a bone conduction speaker;" and "d.2) when receiving no negative response through the bone conduction microphone, finally determining the instruction to operate the processing unit." Neither Oh nor Fukuda disclose determining a computer-operating instruction based on "receiving no negative response," whether through a bone conduction microphone or otherwise.

Applicant's claim 6 recites that "wherein the processing unit has a calling function of making a call, wherein the instruction to the computer is to make a call to a predetermined destination." Neither Oh nor Fukuda teach or disclose a non-voice method of using sounds to activate a processing device or computer to make a phone call.

Wherefore, reconsideration and withdrawal of the obviousness rejection based on Oh et al. combined with Fukuda are respectfully requested.

At page 5, paragraph 11, Claim 8 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Oh in view of Fukuda, with the Examiner further citing Dahan et al. (US Patent No. 6,018,708).

Applicant respectfully traverses the obviousness rejection.

Applicant's claim 8 depends on claim 7 and recites: "a bone conduction speaker for producing bone conduction vibrations, wherein the bone conduction speaker is mounted on the head of the user, wherein the processor outputs a check signal to the bone conduction speaker to check with the user for the instruction and, when receiving no negative response through the bone conduction microphone, the instruction is finally determined."

The remarks set forth above regarding claims 1 and 7 are incorporated by reference here. Additionally, Applicant has the following remarks.

Applicant objects to the Examiner's relying on something that is not a reference, i.e., what the Examiner calls "the modified Oh et al." As discussed

above, the Examiner's theory of how a person of ordinary skill in the art would modify Oh et al is based on incorrect assumptions, such as an incorrect view of how such a person would read Oh and Fukuda respectively.

The Examiner cites col. 2, line 60 to col. 3, line 26 of Dahan as alleging teaching use of a bone conduction speaker to check with the user for instruction. Dahan fails to teach or disclose using a bone conduction speaker. Dahan is a speech recognition system and a speech dictionary, specifically for word recognition. That is, Dahan teaches directly away from the claimed situation where the input sound may not be of voices, as is specified in base claim 7. Oh, Fukuda, and Dahan each do not disclose or suggest anything even close to Applicant's claim 8, to a person of ordinary skill in Applicant's art. Moreover, no combination of the three references would make obvious the requirement of claim 8 that an instruction is finally determined when no negative response is received. In short, none of the references teach or suggest any action based on a negative response.

Wherefore, reconsideration and withdrawal of the obviousness rejection of claim 8 based on Oh et al., Fukuda and Dahan are respectfully requested.

At page 6 of the Office Action, Claims 11-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Oh et al., Fukuda, and Tognazzini (US Patent No. 5,790,974).

Applicant respectfully traverse this obviousness rejection. As mentioned above, Applicant objects to the Examiner relying on something other than a reference, namely, "modified Oh et al.," for making a rejection. Applicant's above remarks with regard to the base claim are incorporated by reference.

Moreover, even with Tognazzini, Oh, and Fukuda, a person of ordinary skill in the art does not have Applicant's invention of claims 11 and 12 disclosed to him. None of the references teach operating a processing device or computer without relying on normal spoken voices, either generally or to do as recited in Applicant's claims 11 and 12. That is, Tognazzini does not make up for the deficiencies of Oh and Fukuda. Furthermore, Tognazzini does not teach transmission of a predetermined message as suggested by the Examiner. Rather, Tognazzini discusses a system of identifying calendar schedule conflicts (none of

which are predetermined).

Wherefore, reconsideration and withdrawal of the obviousness rejection of claims 11-12 based on Oh, Fukuda and Tognazzini are respectfully requested.

At page 8 of the Office Action, Claim 13 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Dahan in view of Fukuda. The Examiner admits that Dahan fails to disclose that the microphone is a bone conduction microphone mounted on a head of a user. However, the Examiner resorts to Fukuda.

Applicant respectfully traverses this obviousness rejection.

A person of ordinary skill in the art would not have been motivated to modify Dahan in the manner that the Examiner proposes. Namely, Dahan is a speech-recognition system based on frequently occurring word sequences. Dahan gives as examples of intended use: voice activated dialing, credit card number identification, flight information. Dahan discloses input speech via a normal telephone. Figs. 1, 2, telephone 101. Dahan concerns how the input sound is processed and matched. Dahan does not purport to provide for any special input equipment.

It is completely artificial to propose that a person of ordinary skill in the art would try to modify Dahan to introduce special fitted equipment for a user in place of a regular telephone. Nothing in Dahan calls attention to the telephone 101. The modification proposed by the Examiner is not what a person of ordinary skill in the art would be thinking. Objectively, there is nothing about Dahan that indicates that substitution for the telephone input would be in order or desirable, and the Examiner's proposal to modify Dahan is quite artificial. Moreover, bone conduction devices may be relatively uncomfortable, needing to be close-fitting near the ear of a user, and thus may not be suitable to replace Dahan's telephone input because of discomfort and inconvenience issues. Also, bone conduction devices may give rise to sound quality problems, by picking up vibrations, and so would not be desirable for use in Dahan.

Wherefore, reconsideration and withdrawal of the obviousness rejection of claim 13 based on Dahan and Fukuda are respectfully requested.

At page 9 of the Office Action, Claims 15 and 17 have been rejected under

35 U.S.C. 103(a) as being unpatentable over Dahan, in view of Fukuda, and further in view of Tognazzini.

Applicant respectfully traverses this rejection of claims 15 and 17, for which claim 13 is a base claim, and incorporates by reference Applicant's remarks with regard to claim 13. Further remarks are not believed needed at this time. Reconsideration and withdrawal of this obviousness rejection are respectfully requested.

At page 11 of the Office Action, Claims 14 and 19-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US Patent No. 5,199,080) in view of Fukuda. At page 14 of the Office, Claims 16 and 18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura, in view of Fukuda, as applied to claim 14, and further in view of Tognazzini.

Applicants respectfully traverse these obviousness rejections having Kimura as the primary reference.

The Examiner admits that Kimura fails to disclose that the microphone is a bone conduction microphone mounted on a head of a user. Kimura relies on voice-operation and not non-voice sounds. The systems and devices containing bone conduction microphones according to Applicant's present claims 14 and 19 provide unexpectedly superior results to the products according to Kimura which the Examiner has cited as the closest art. Namely, Applicant's inventive systems and devices permit a user to activate a processing device or computer without using his voice, surreptitiously, with non-voice sounds, which characteristic can be used for discretely calling for help and advising of one's location, without attracting notice of a captor holding the user against his will or a nearby criminal. Applicant's inventive systems and devices can be used for voicelessly calling for help or reporting-in. It will be immediately appreciated that, by contrast, Kimura's remote control systems, being voice-operated, attract attention and cannot provide this advantage provided by Applicant's invention.

Wherefore, reconsideration and withdrawal of the obviousness rejections based on Kimura as a primary reference are respectfully requested.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1-20 be allowed, and that the application be passed to

issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephone or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson, P.C.)

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Clyde R. Christofferson', written over a horizontal line.

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